SPECIFICATION

Amend paragraph beginning at page 12, line 12, as follows:

Modeling logical links in an IP network is now described. An LSP request arrives with a demand of r_d ($r_d \leq 1$ units) is to be routed from node $a \in R$ to node ~~$a \in R$~~ $\underline{b \in R}$. If the LSP request is the first demand in the network and the path for this demand is determined, this path, in general, will pass through a sequence of routers and OXCs (with or without wavelength conversion). FIG. 4 shows an example of one such path through routers and OXCs (both with and without wavelength conversion). When a particular wavelength of each link between nodes of the path carries r_d units of the demand, a residual capacity c_r, of ($1 - r_d$) units of bandwidth is available in that wavelength for future demands. The OXCs (with or without wavelength conversion) generally do not perform sub-wavelength granularity bandwidth switching or multiplexing. Therefore, if the path passes through some OXCs between routers, the residual bandwidth of ($1 - r_d$) units of bandwidth may be modeled by introducing a cut-through arc between the routers and eliminating the wavelength links in the original graph. The terms "arc" and "link" are generally equivalent terms in the art. This cut-through arc represents a logical link in the IP layer. All the non cut-through arcs are also the links in the physical (optical) layer. If the path has two routers that are adjacent then the residual capacity of the wavelength that is used to route this demand is reduced by r_d units.